HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

Challenging Cases in LAA Closure

Moussa Mansour, MD

Director, Atrial Fibrillation Program
Jeremy Ruskin and Dan Starks Endowed Chair in Cardiology
Associate Professor of Medicine, Harvard Medical School

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MGH 1811
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CORRIGAN MINEHAN HEART CENTER

Outline

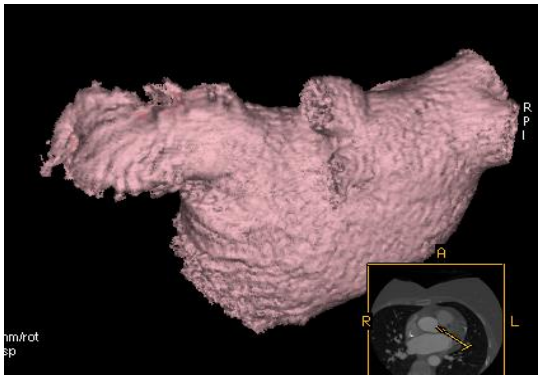
1. Suboptimal location of TS puncture
2. LAA clot/slow flow
3. Closure of partially ligated LAA

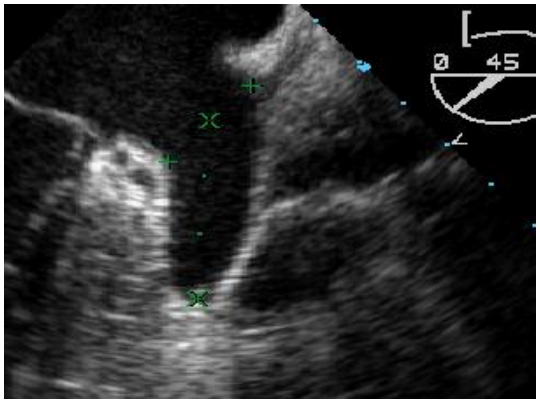
Part 1: Suboptimal Location of TS Puncture

Common LAA Anatomical Types

Windsock

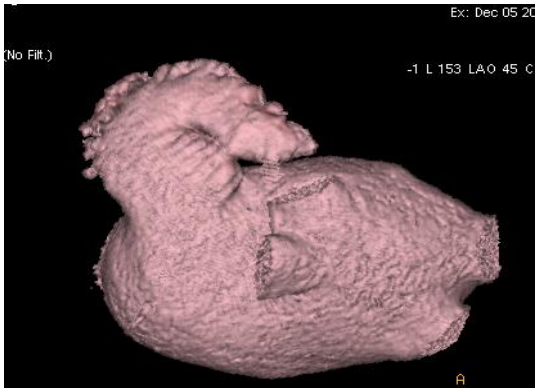
one dominant lobe of sufficient length is the primary structure

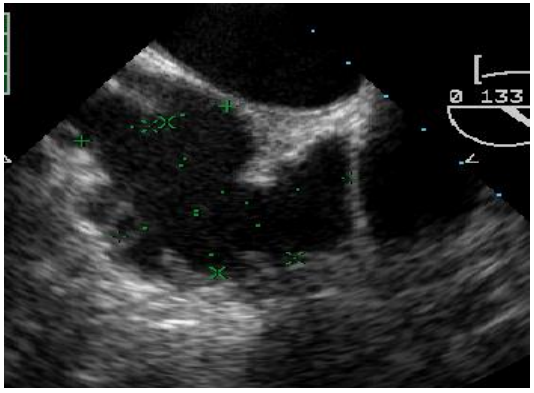




Chicken Wing (and its variants)

sharp anterior bend in the dominant lobe of the LAA anatomy at some distance from the perceived LAA ostium

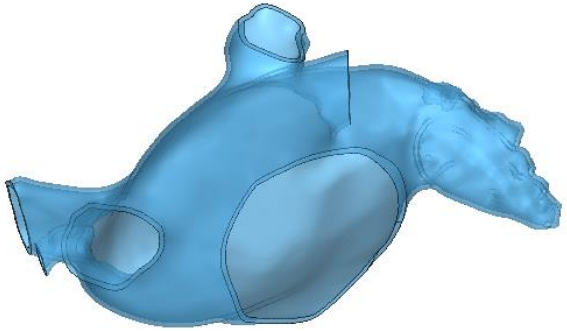




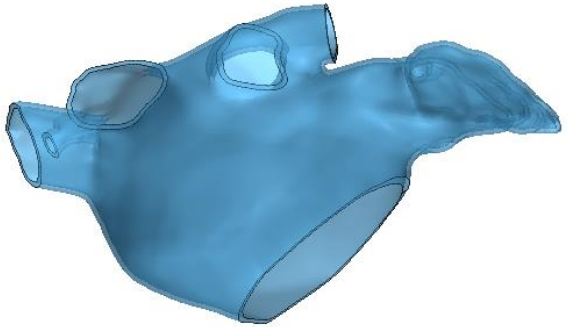
 Di Biase et al. JACC

TEE Views

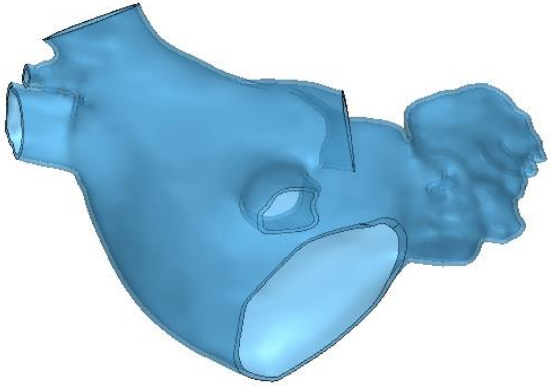
0 degree



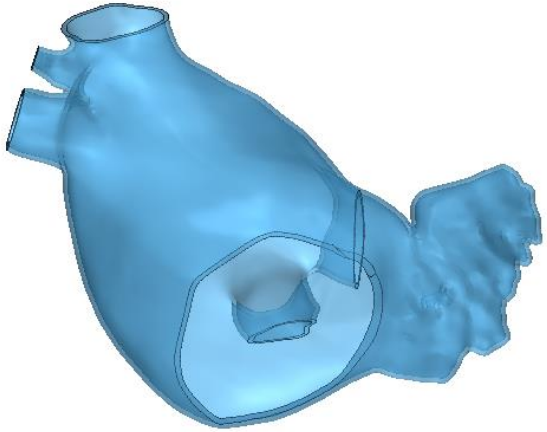
45 degree



90 degree



135 degree

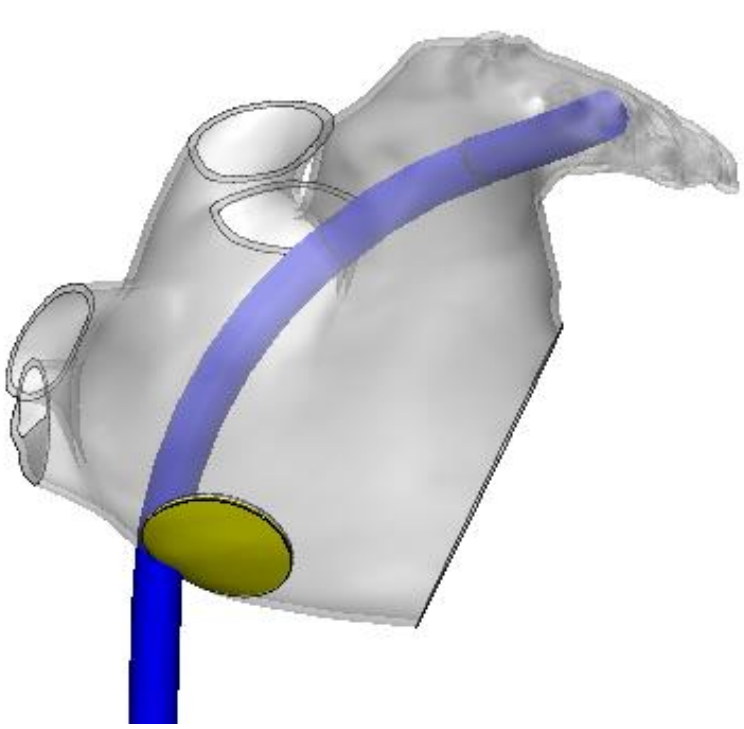


Courtesy of Rodney Horton - modified

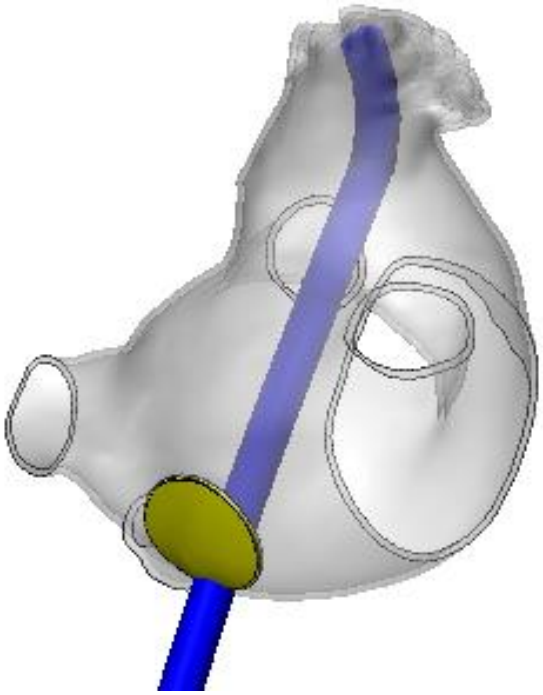
TS Puncture Low Posterior

TS Puncture Low Posterior Windsock LAA

RAO



AP Caudal



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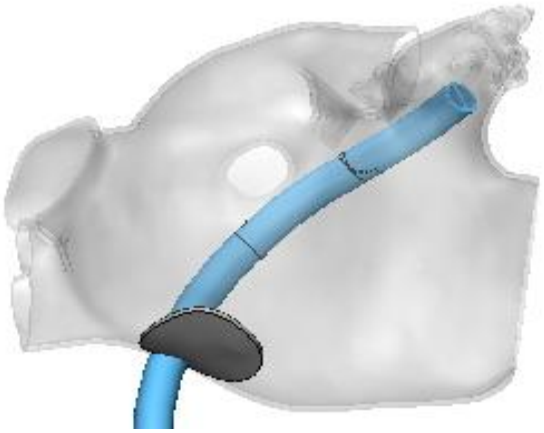
Chicken Wing LAA (Anterior Lobe)
TS Puncture Low/Anterior and not Low/Posterior

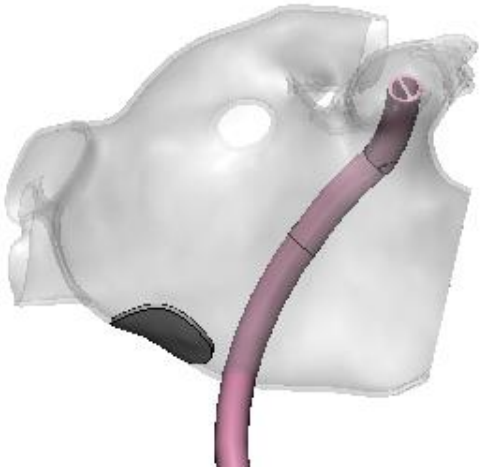
RAO

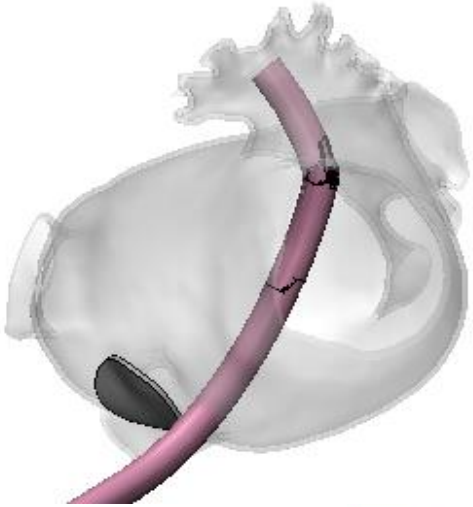
AP Caudal

Low Posterior



Low Anterior





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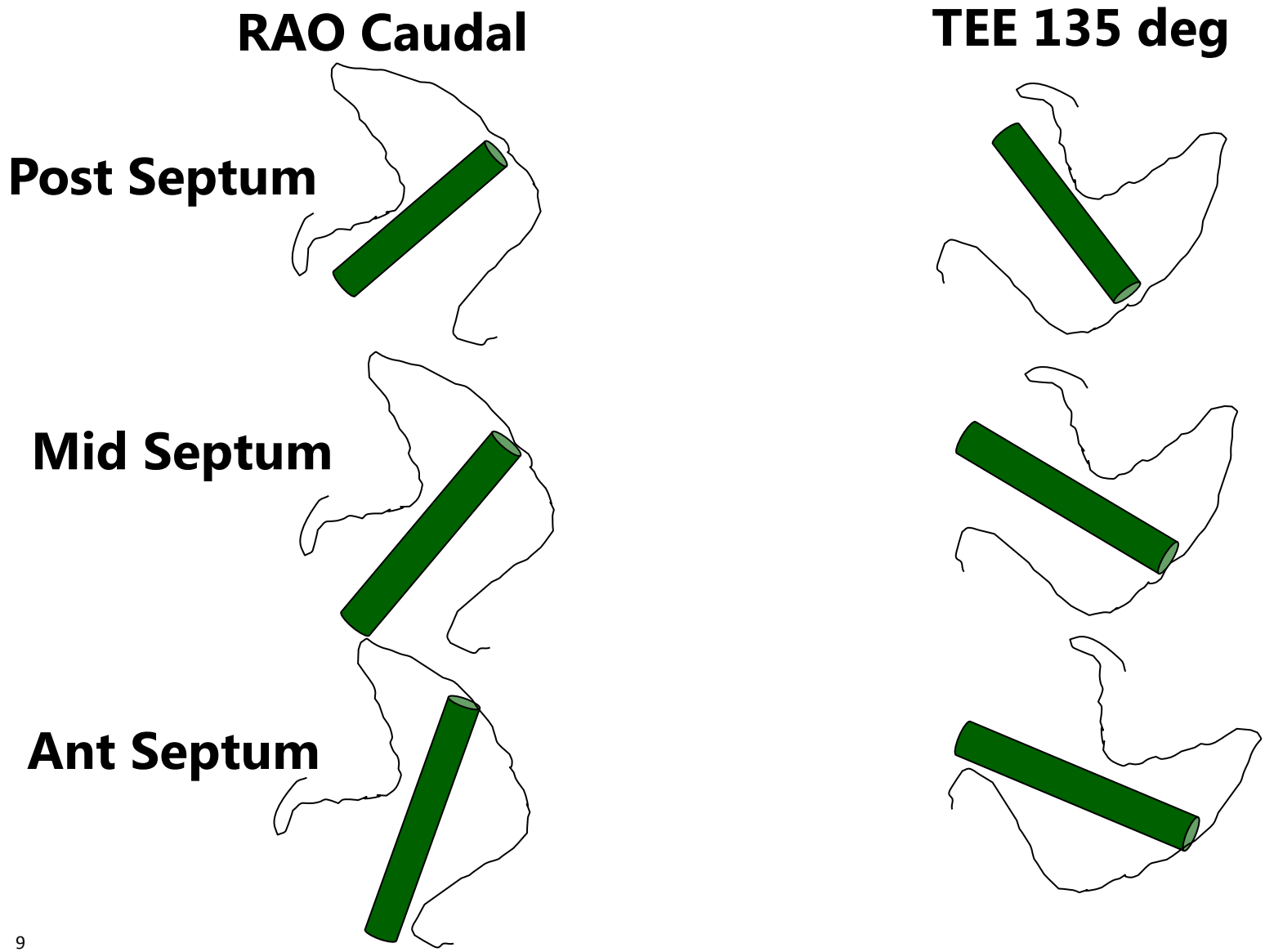
Effect of TS on Sheath Axis in Chicken LAA with Anterior Lobe



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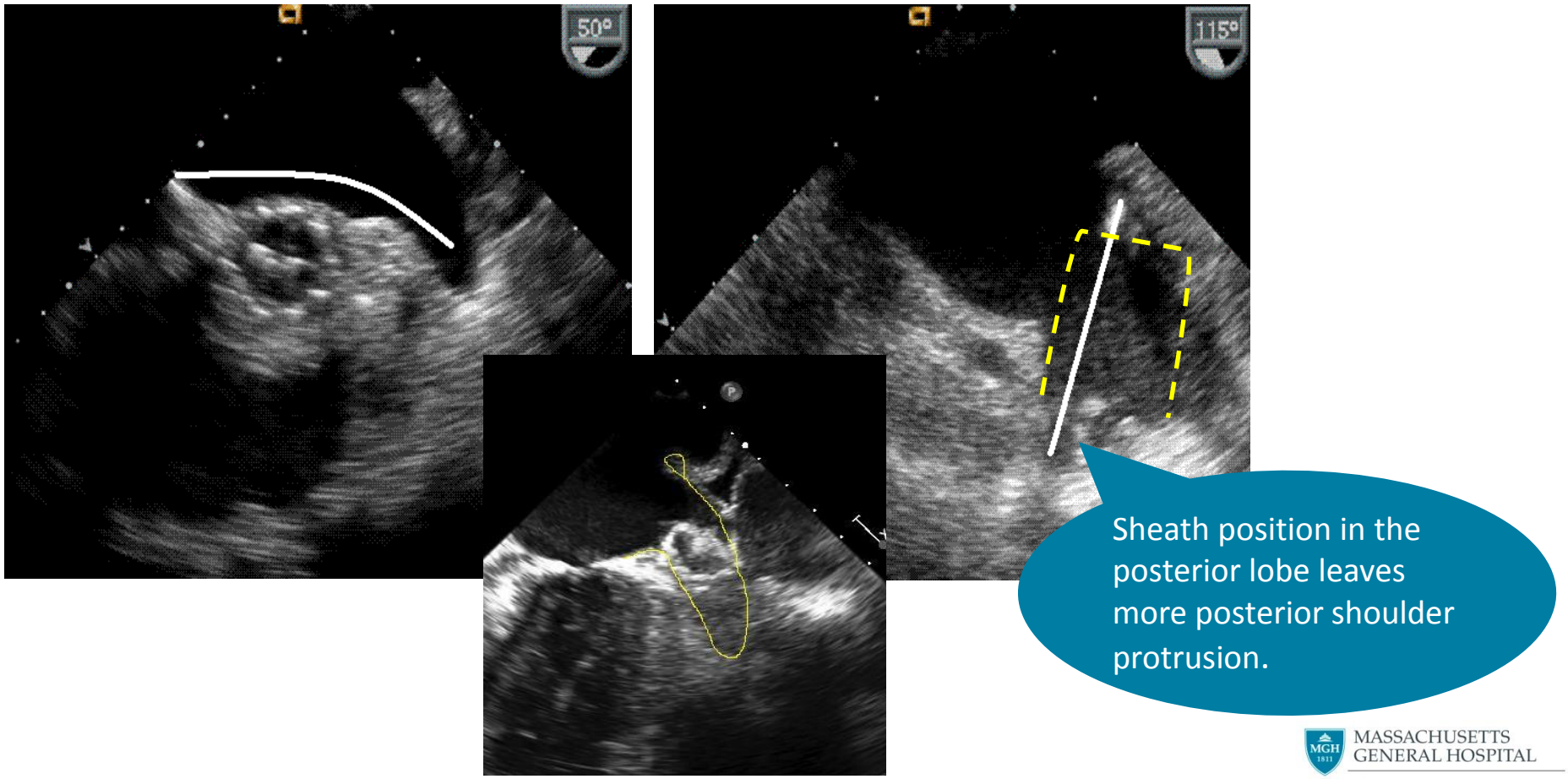
Chicken Wing LAA Example-1
TS Puncture too Posterior



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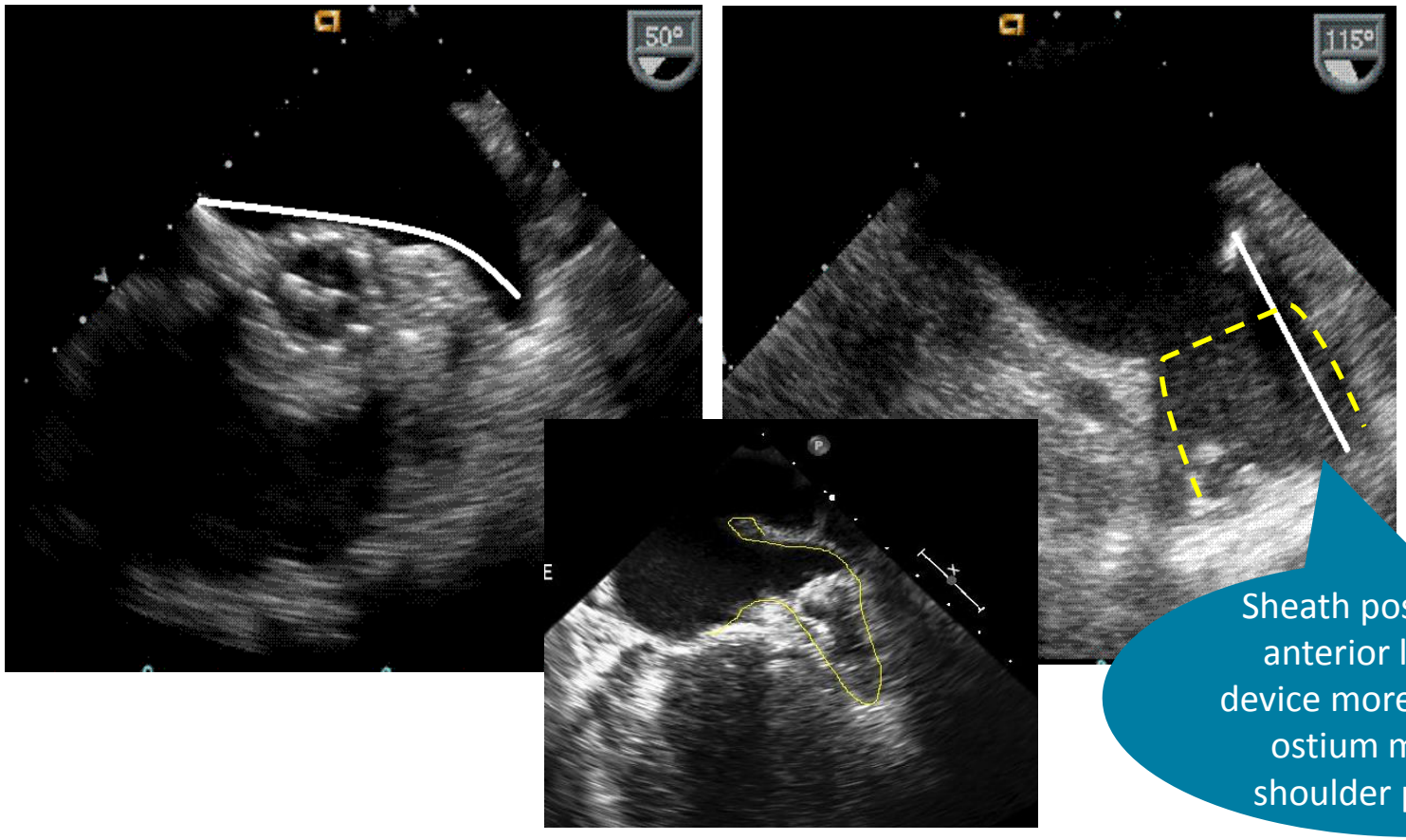
Same Patient
More Anterior and Lower TS Puncture



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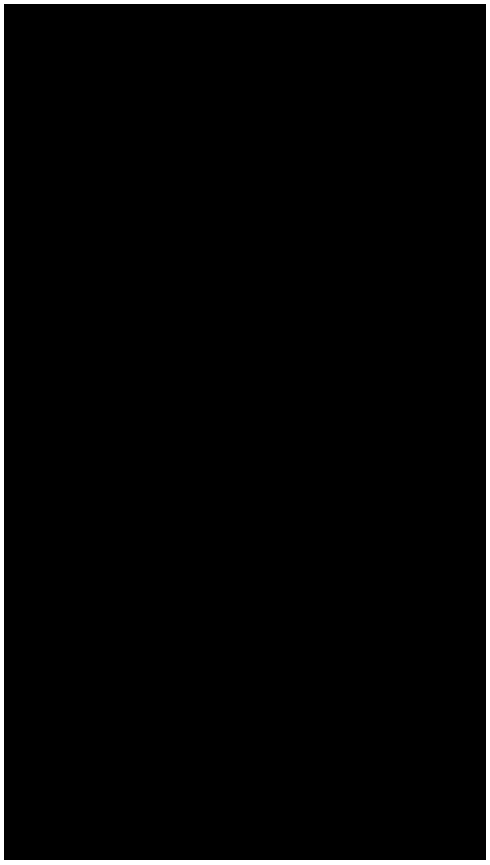
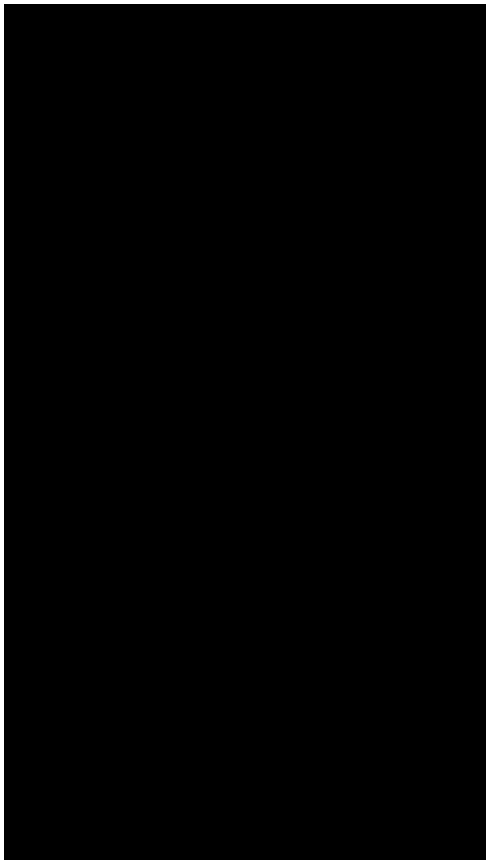
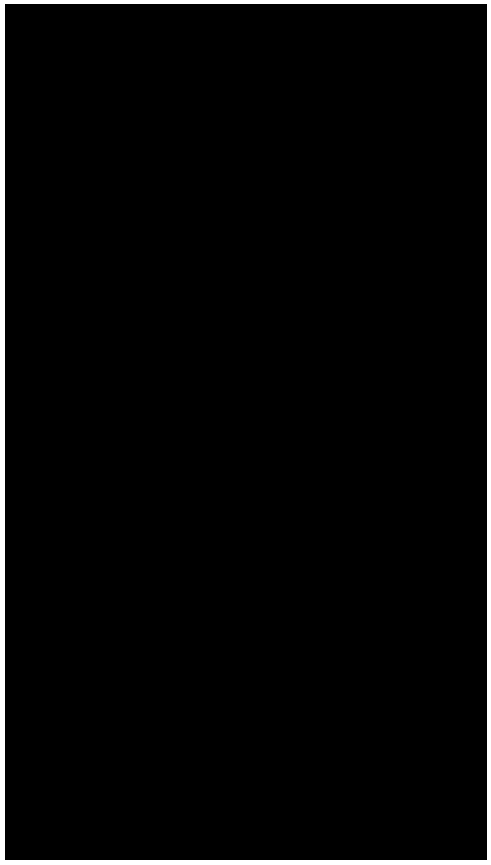
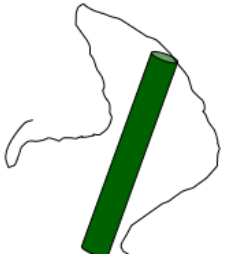
Example-2
Posterior/High → Anterior/Low TS Puncture









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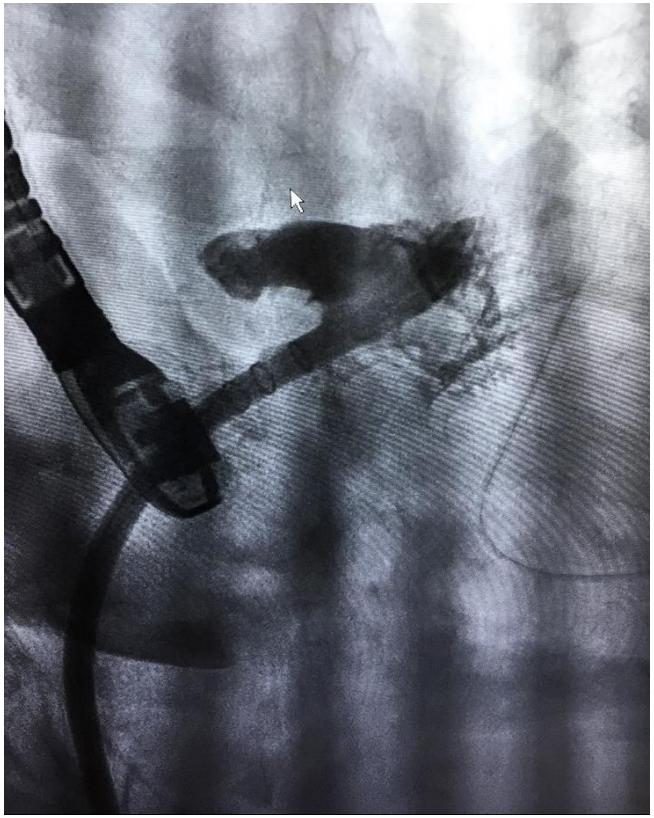
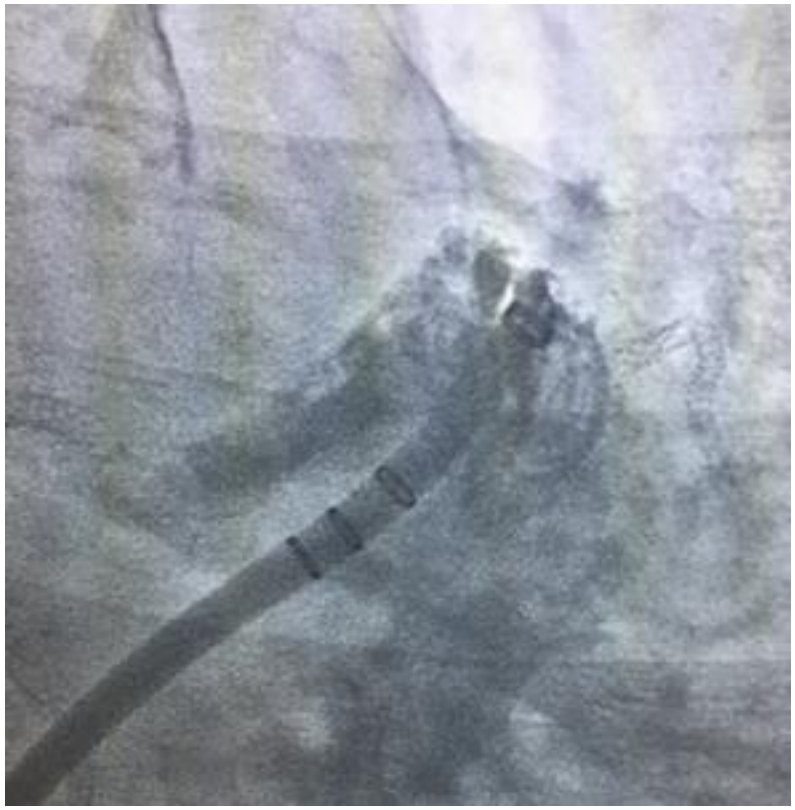
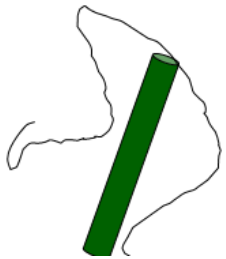
Example-3
Posterior/High→ Anterior/Low TS Puncture

RAO Caudal







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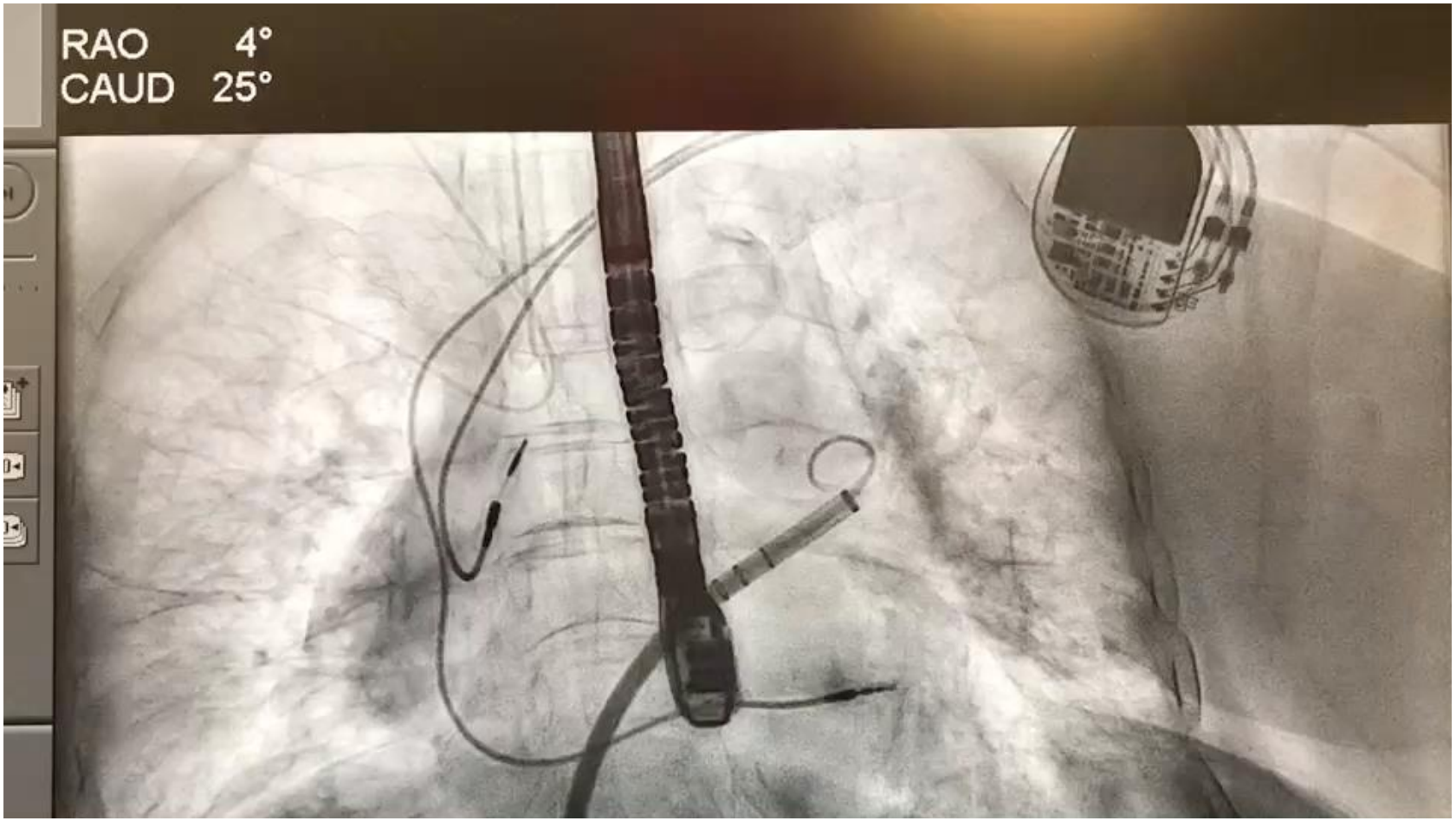
Example-4
Too Posterior and High



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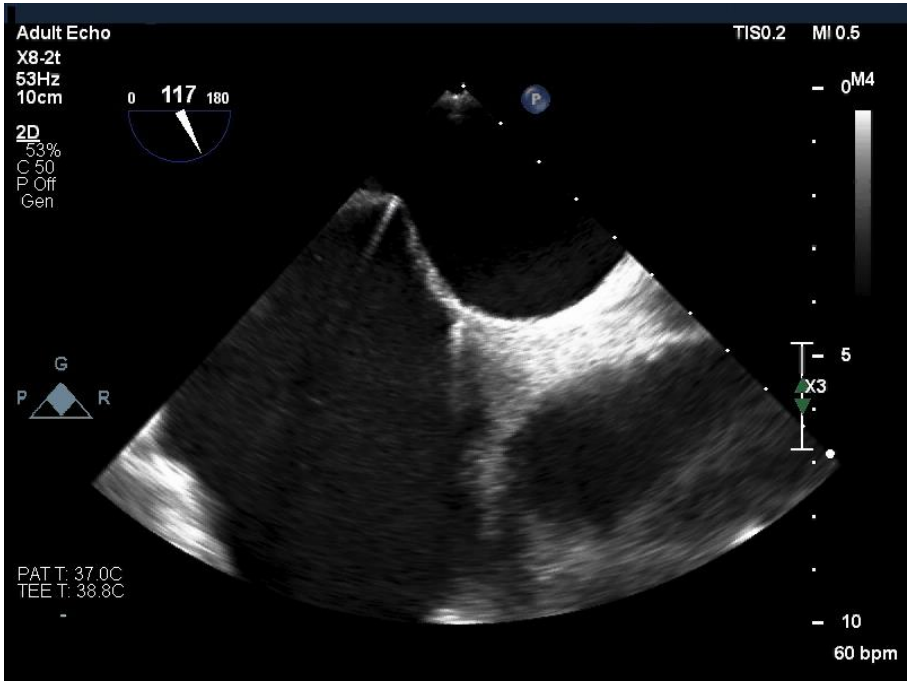
Optimal TS Puncture TEE Views and Location for Chicken Wing LAA



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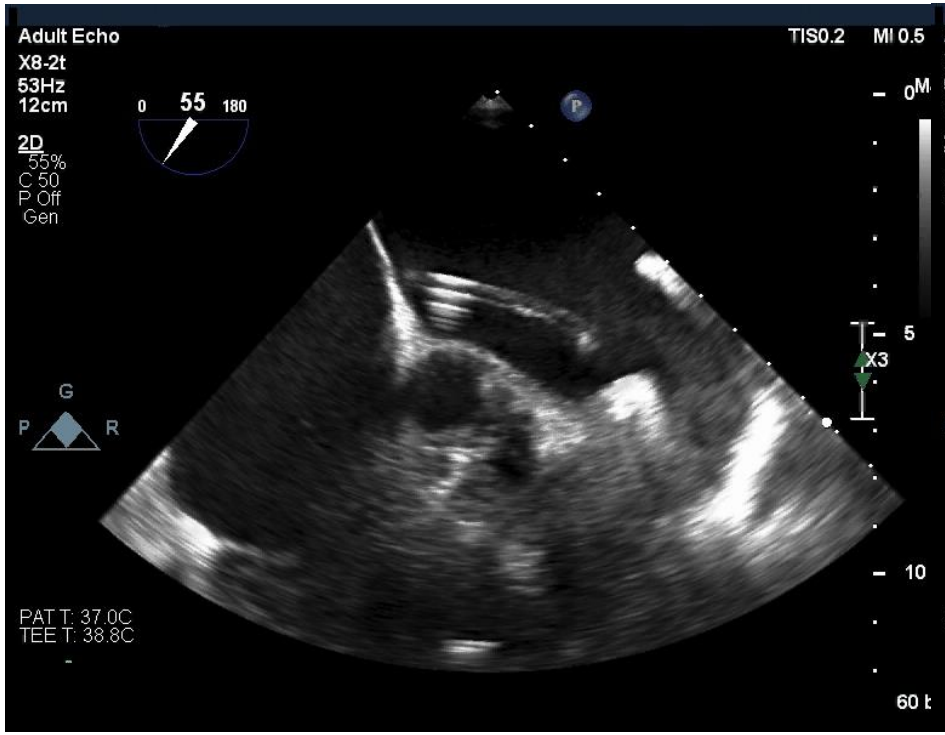
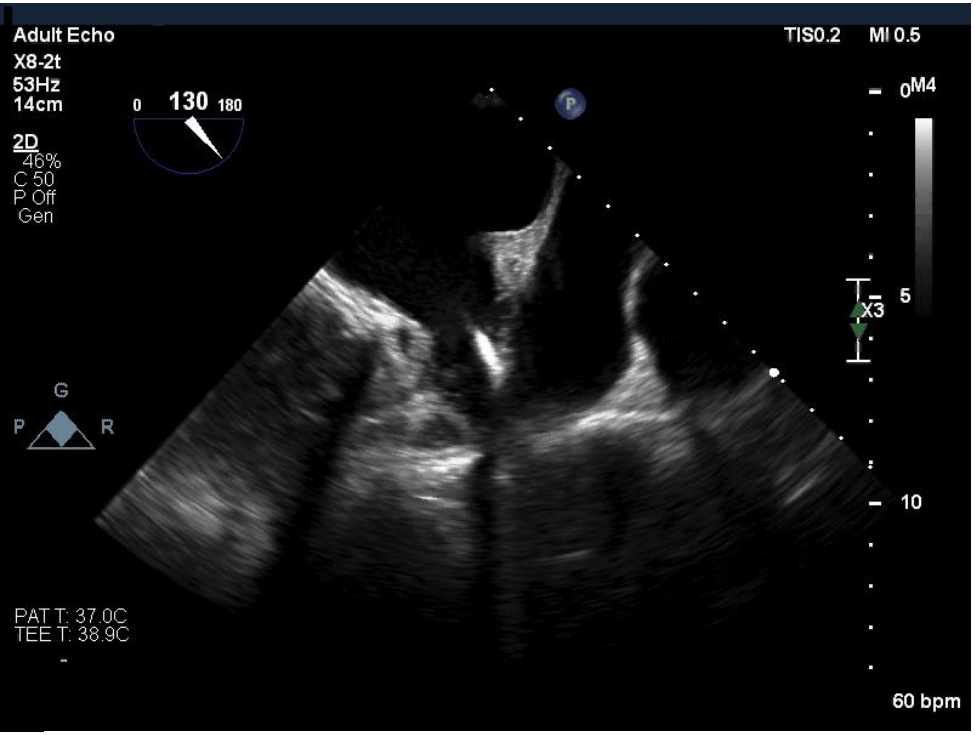
Optimal TS Puncture TEE Views and Location for Chicken Wing LAA





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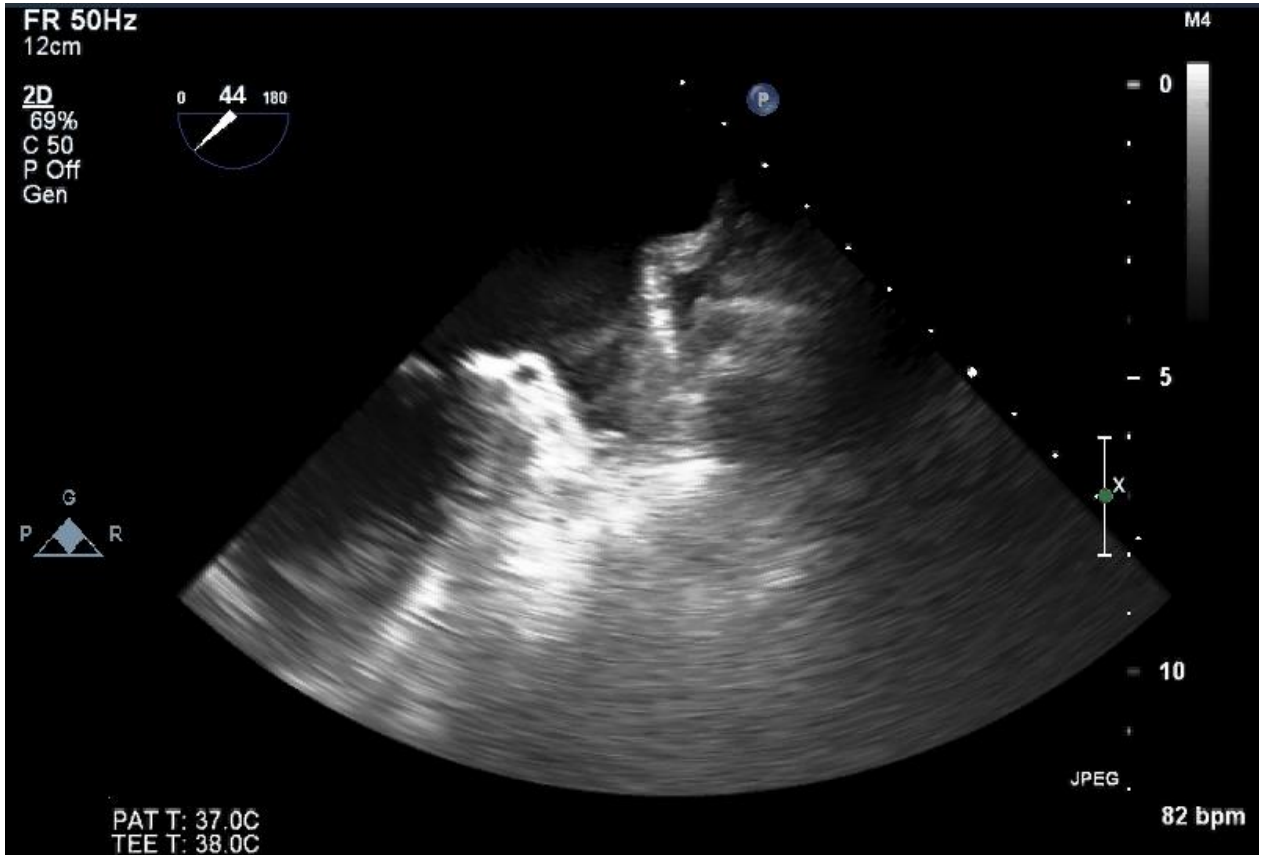
Summary

- Classic windsock is best engaged with low, posterior puncture
- All other morphologies are hindered, not helped with the posterior puncture
- Anterior chicken wing morphologies require low, anterior puncture

Part 2: LAA clot/slow flow

1. 73 year old with PAF:
   a) CHADS score: 4 (stroke, HTN, DM)
   b) CHADSVASC score: 5 (stroke, HTN, DM, age)
   c) Anticoagulation: Coumadin
   d) EF: 60%
2. GI bleed and found not to be a candidate for long term OAC



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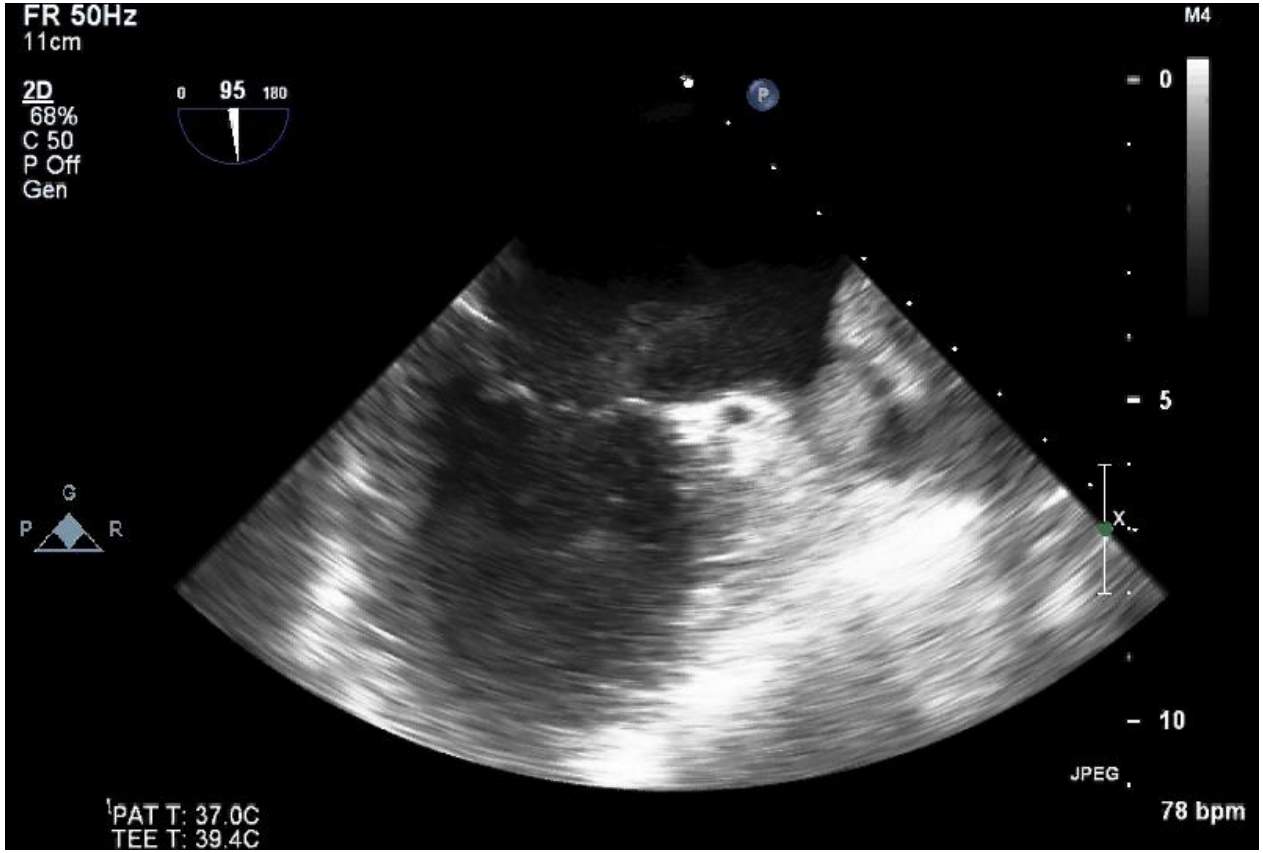

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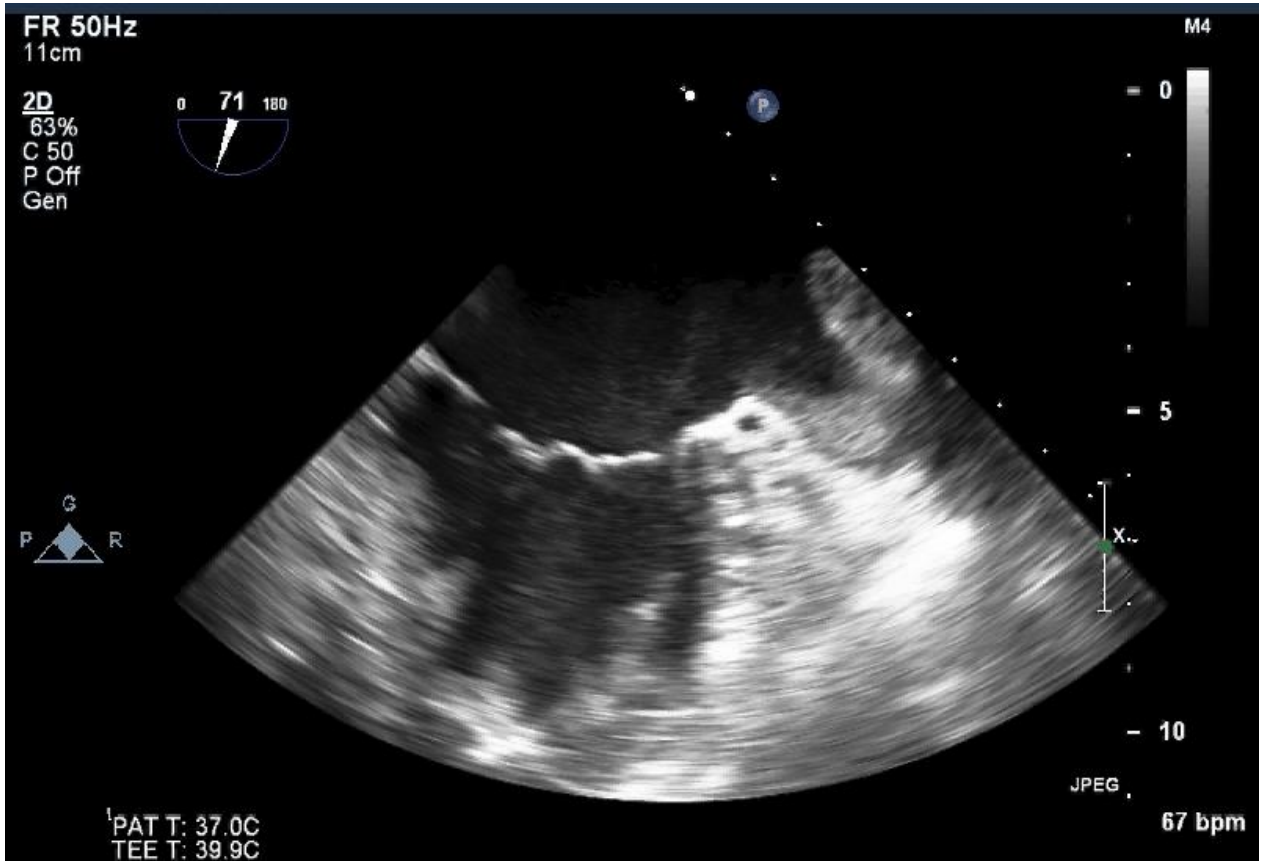

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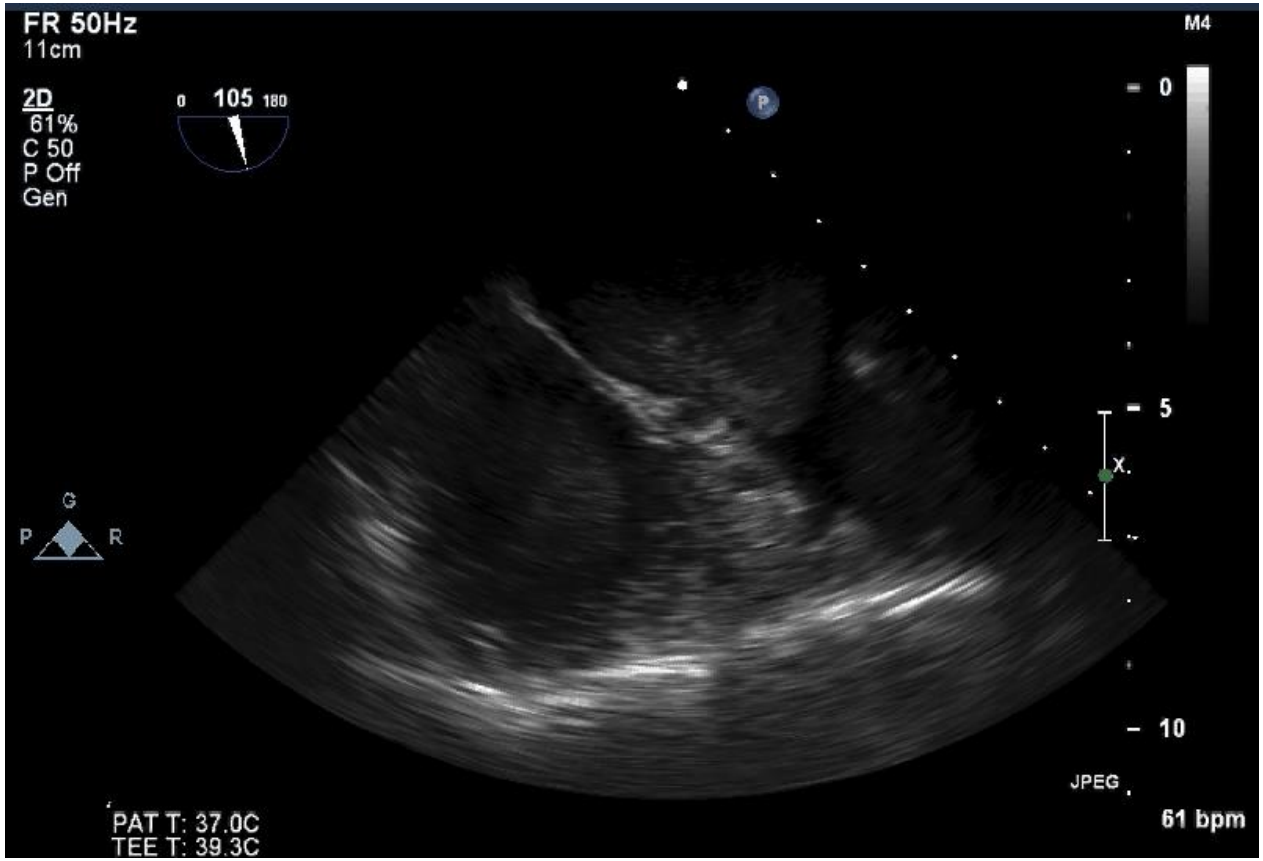

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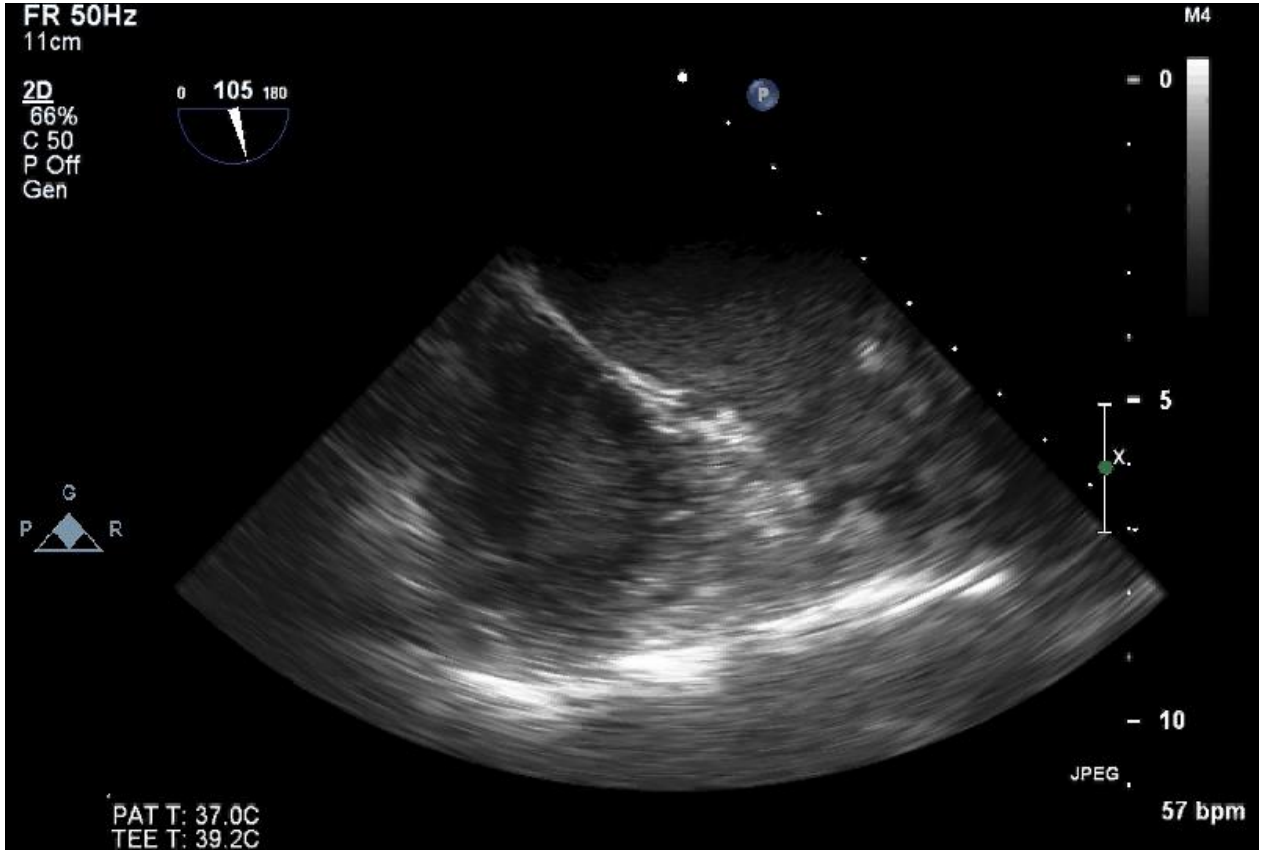

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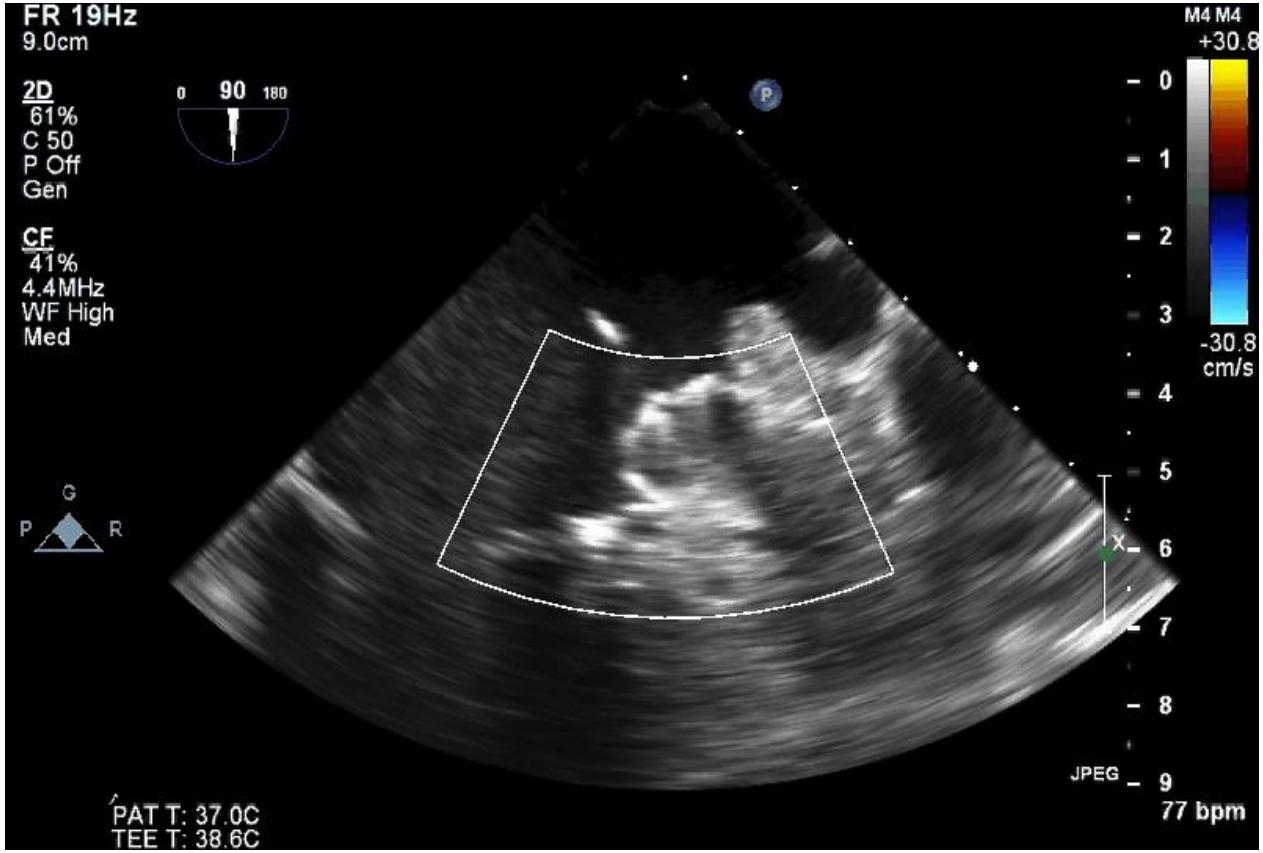

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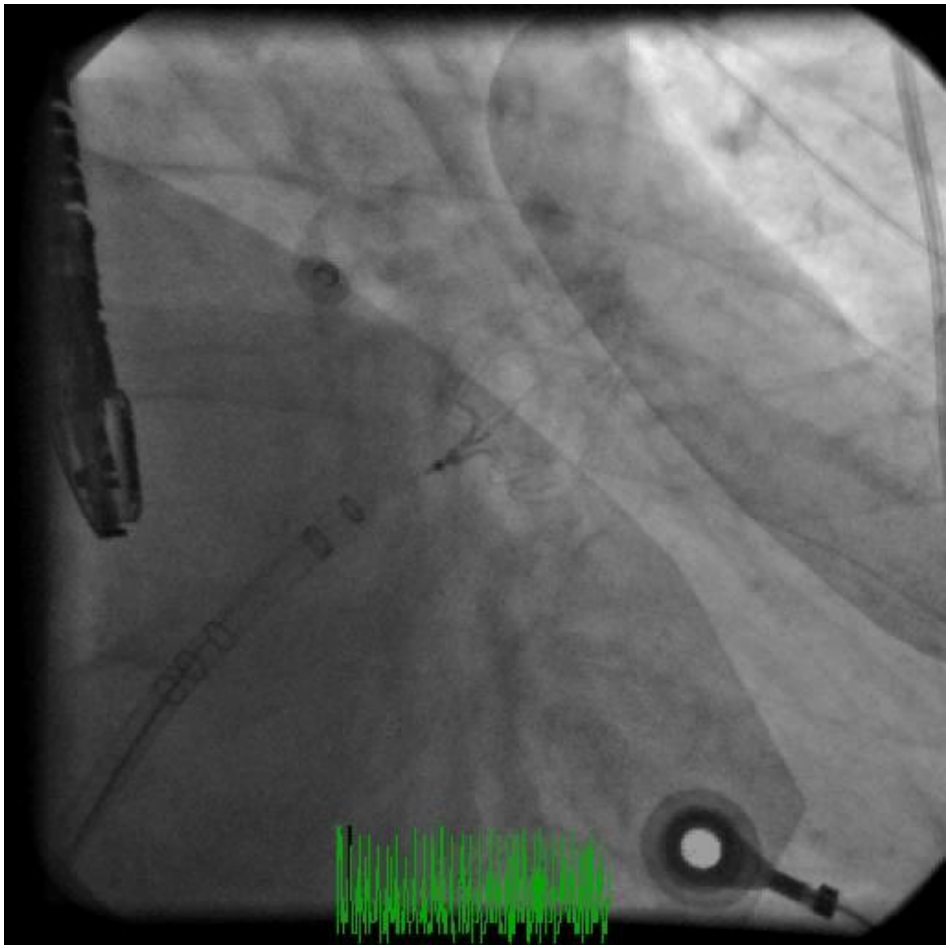

Summary

- High dose IV Heparin and ultrasound contrast may differentiate low flow from LAA clot

Part 3: Partially closed LAA

- 65 year old with prior MAZE and LAA ligation
- Continues to have intermittent AF, asymptomatic

Pre-procedure

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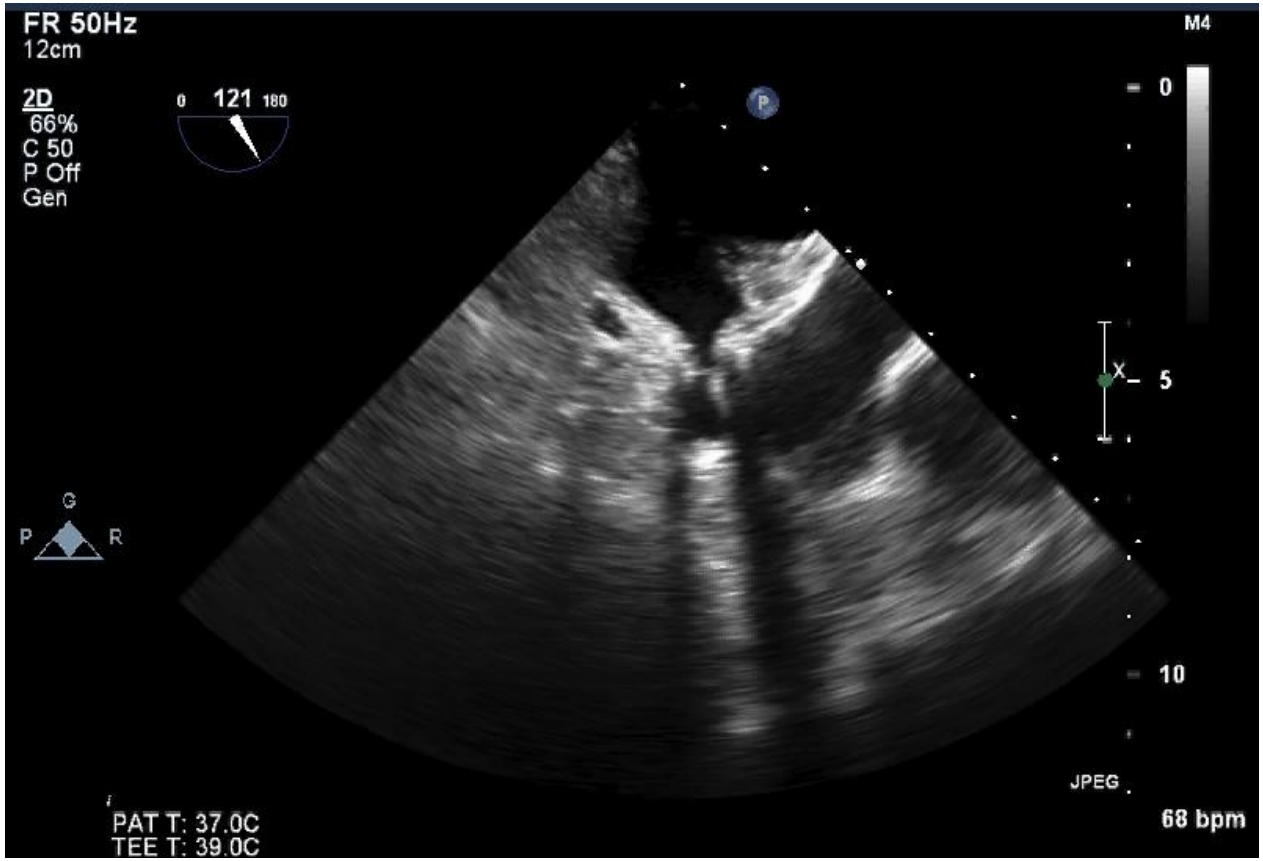

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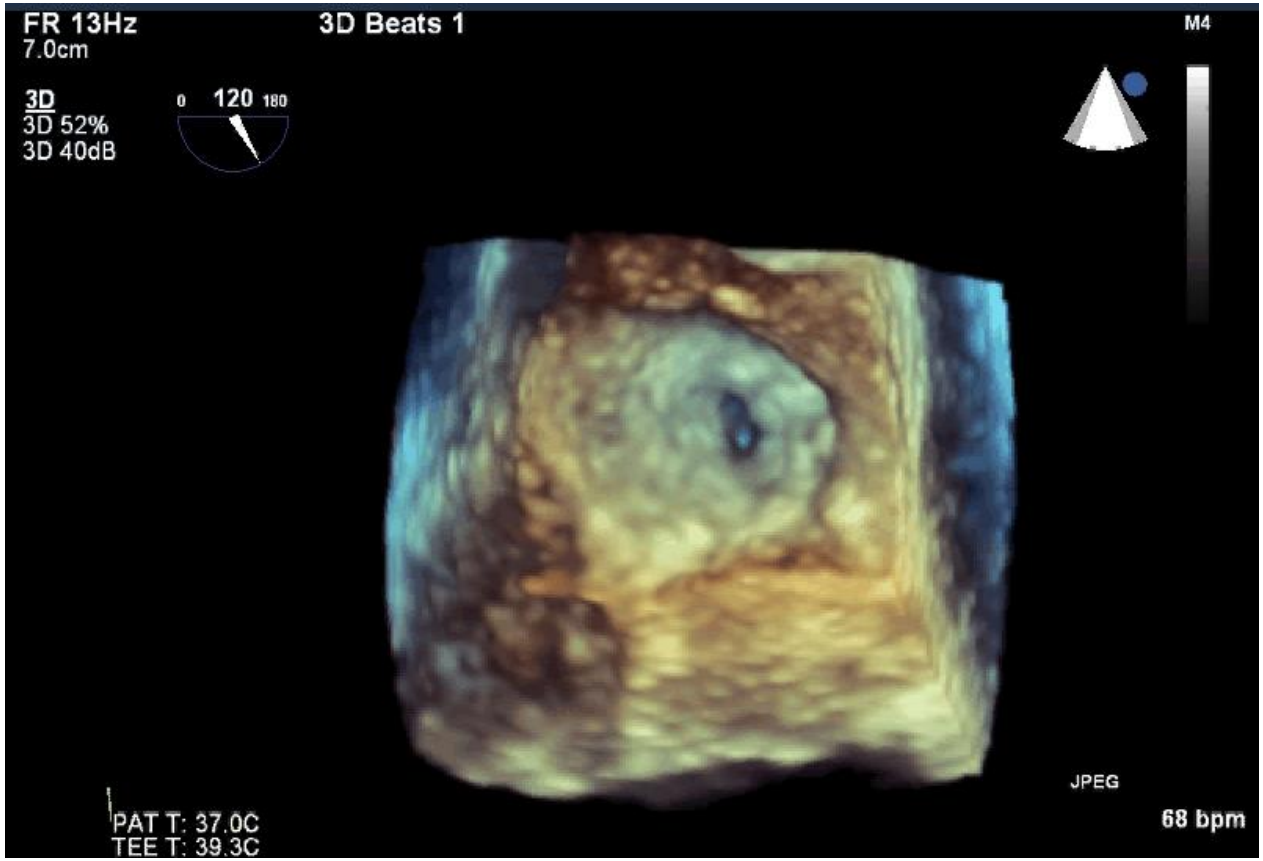

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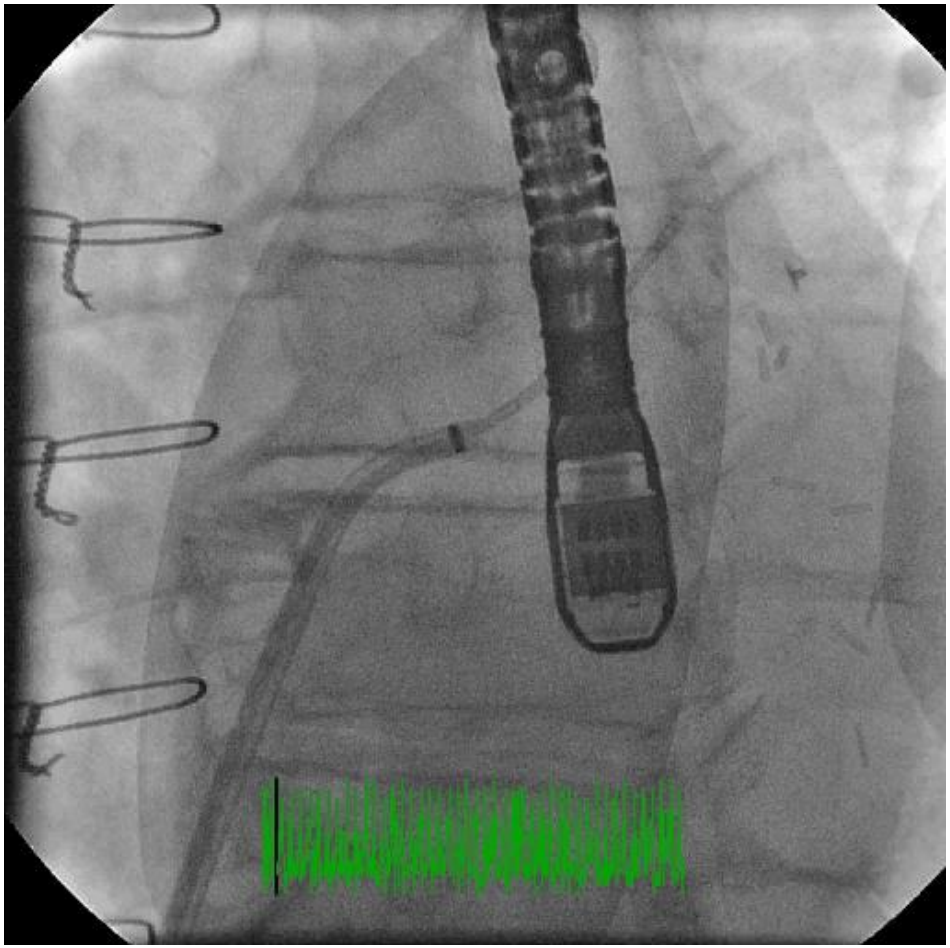

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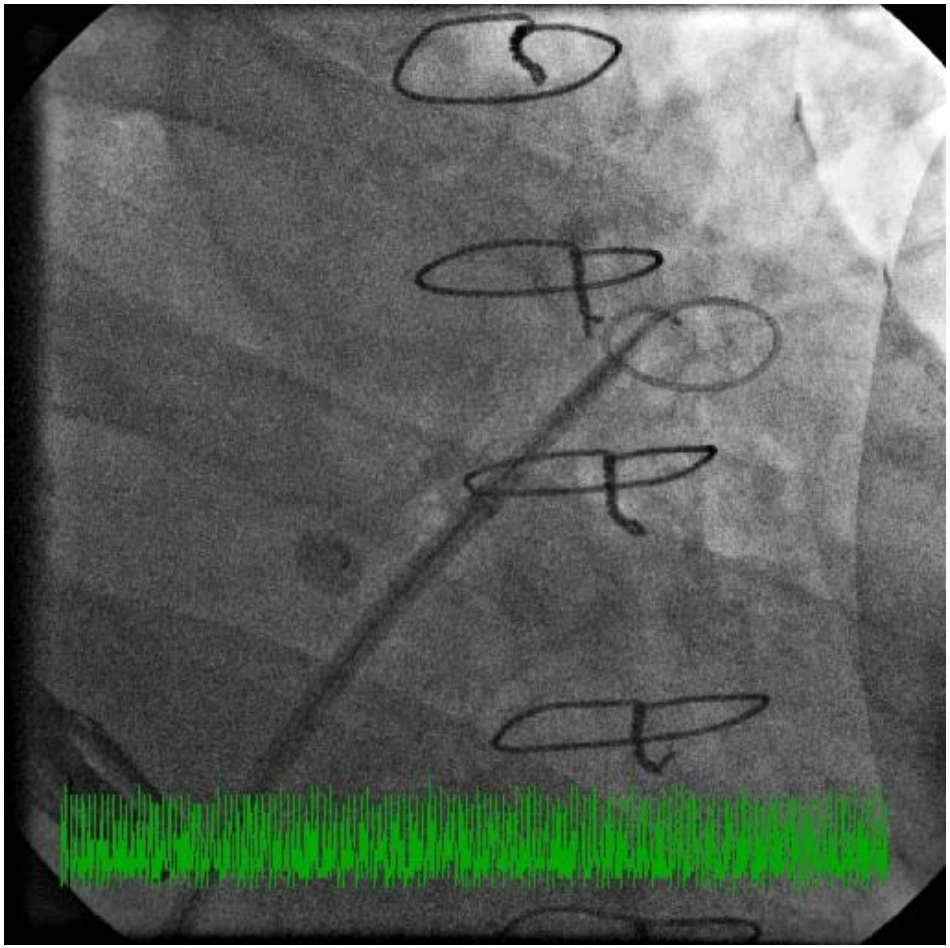

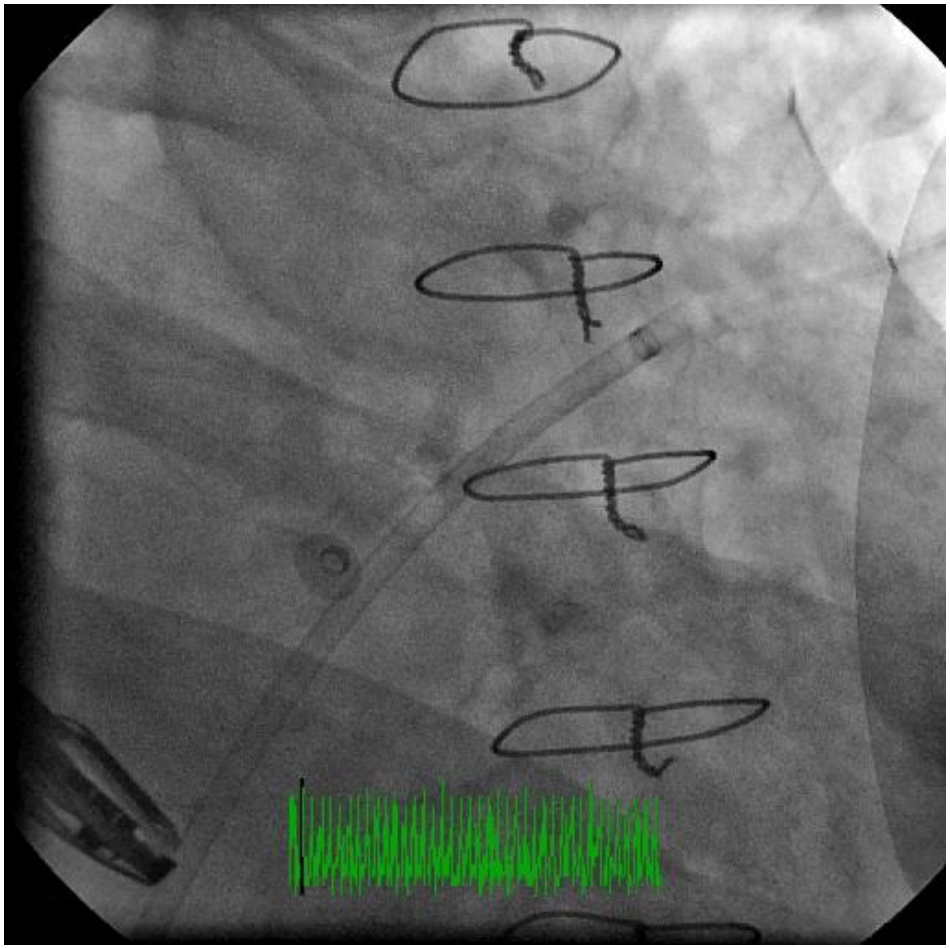

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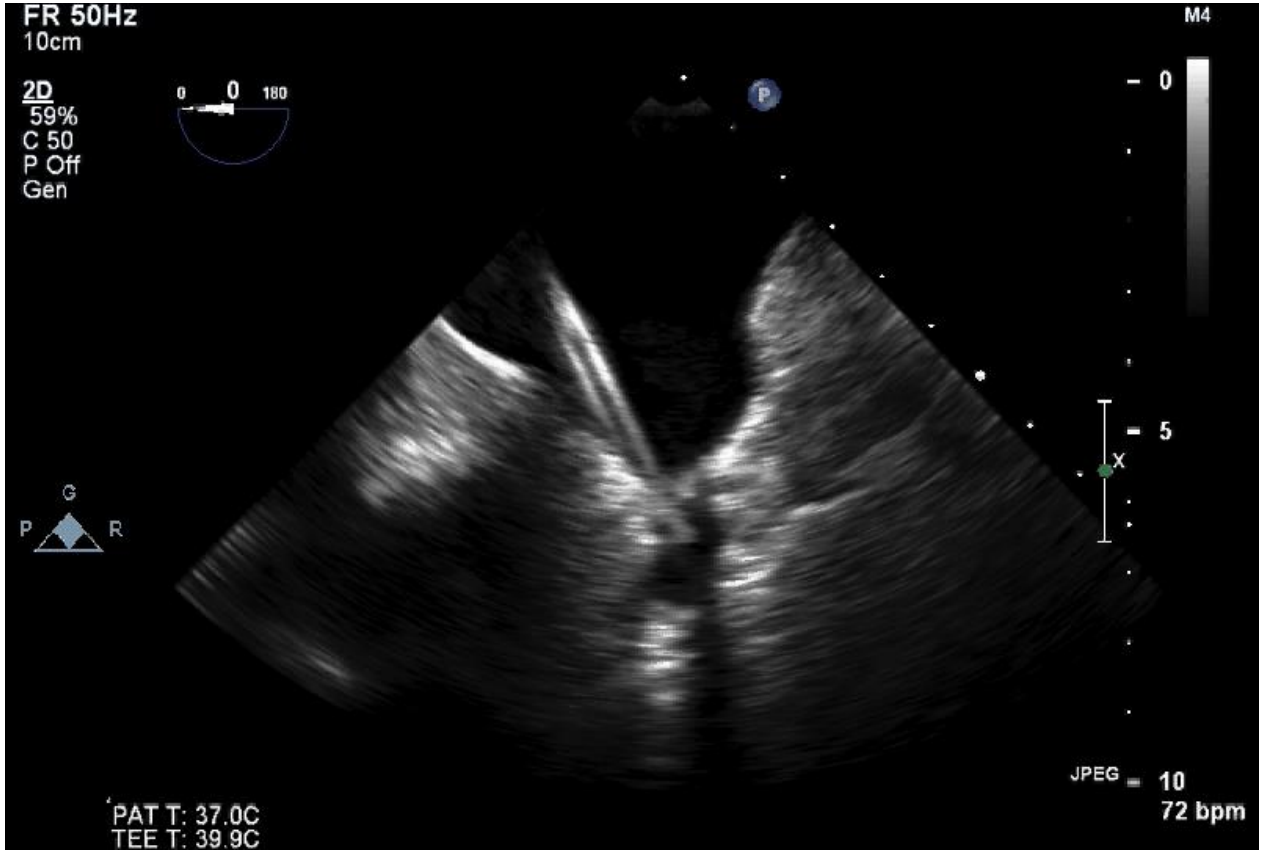

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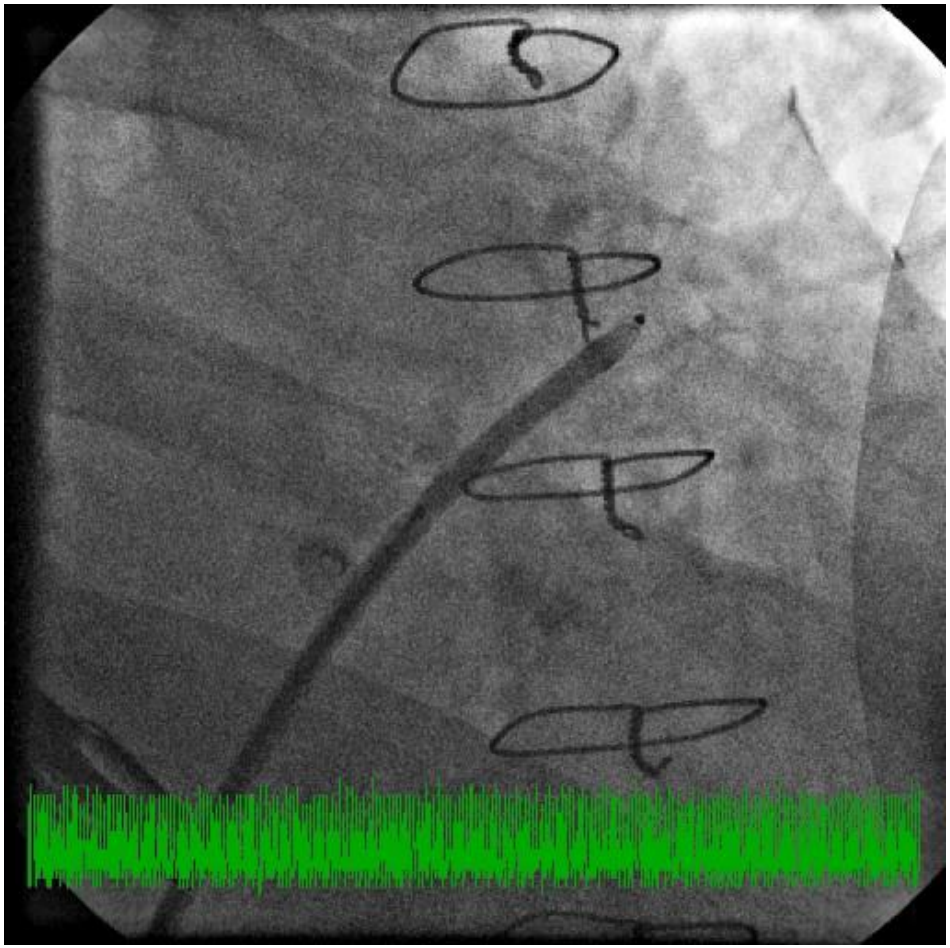

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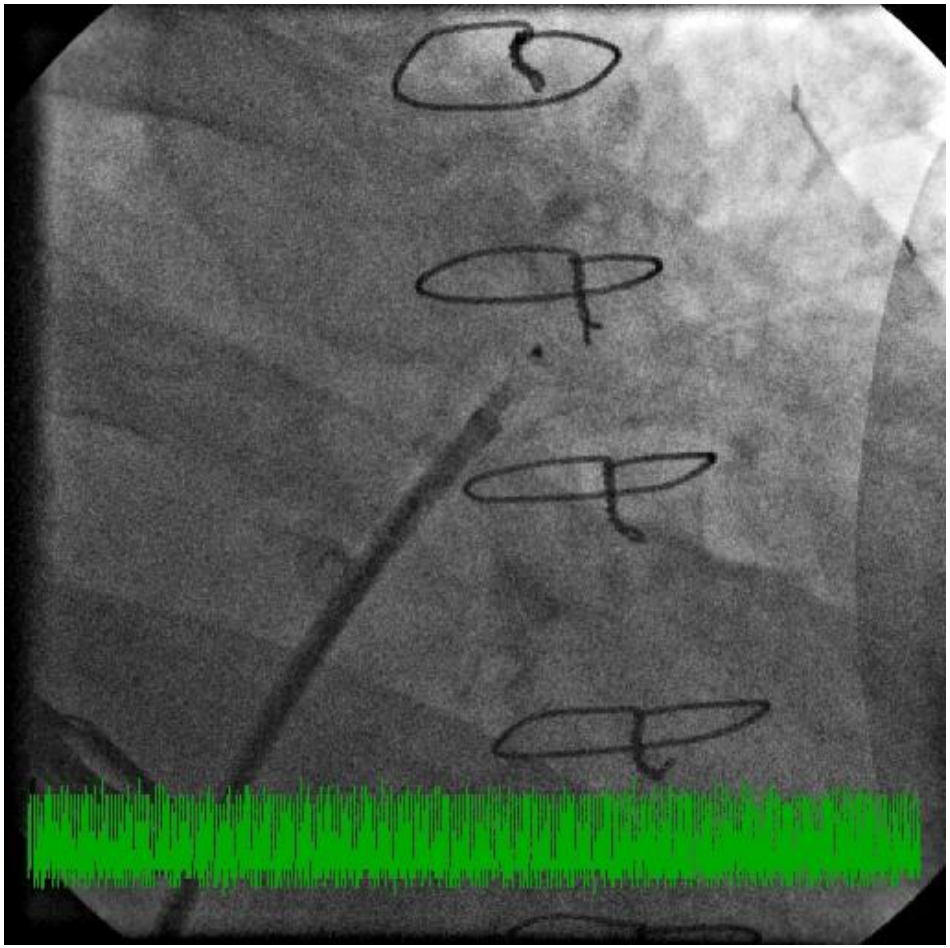

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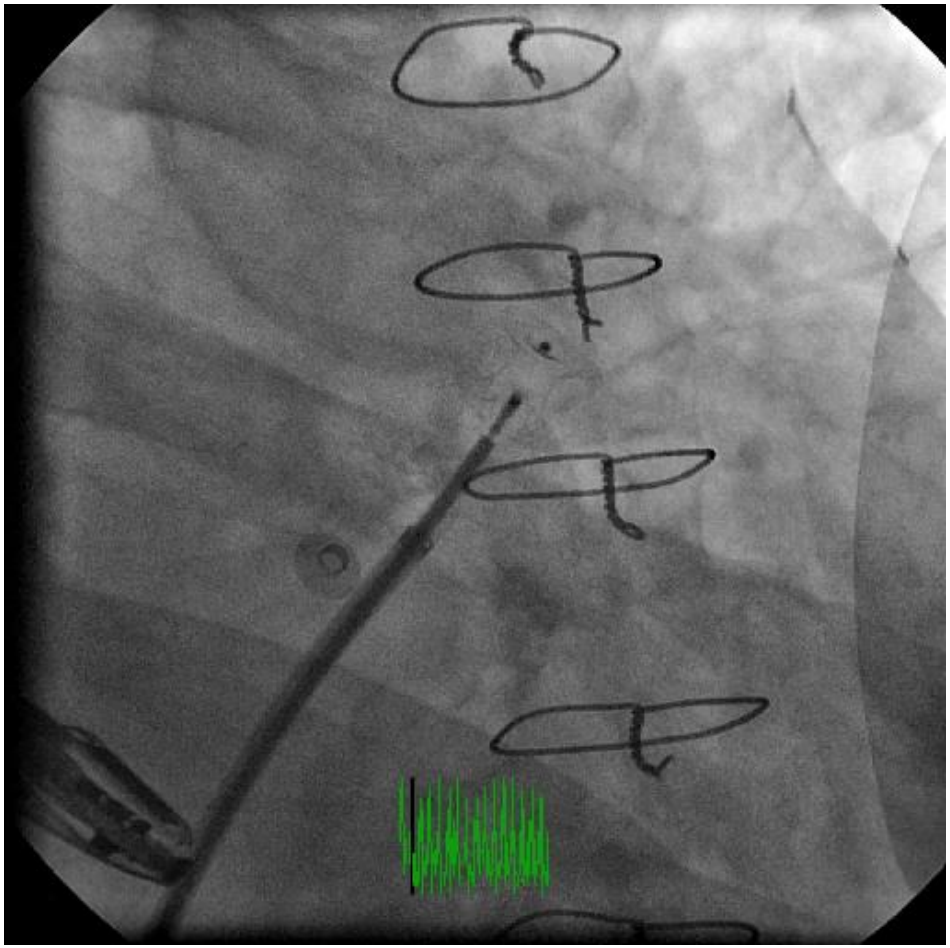

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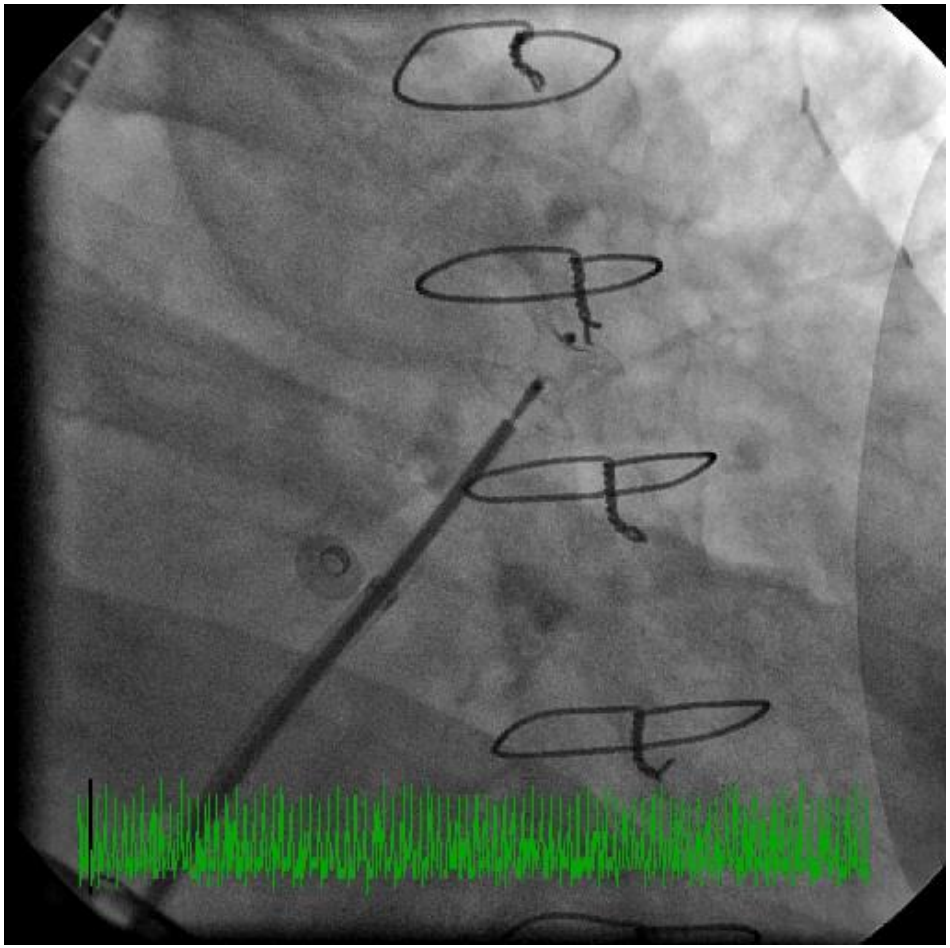

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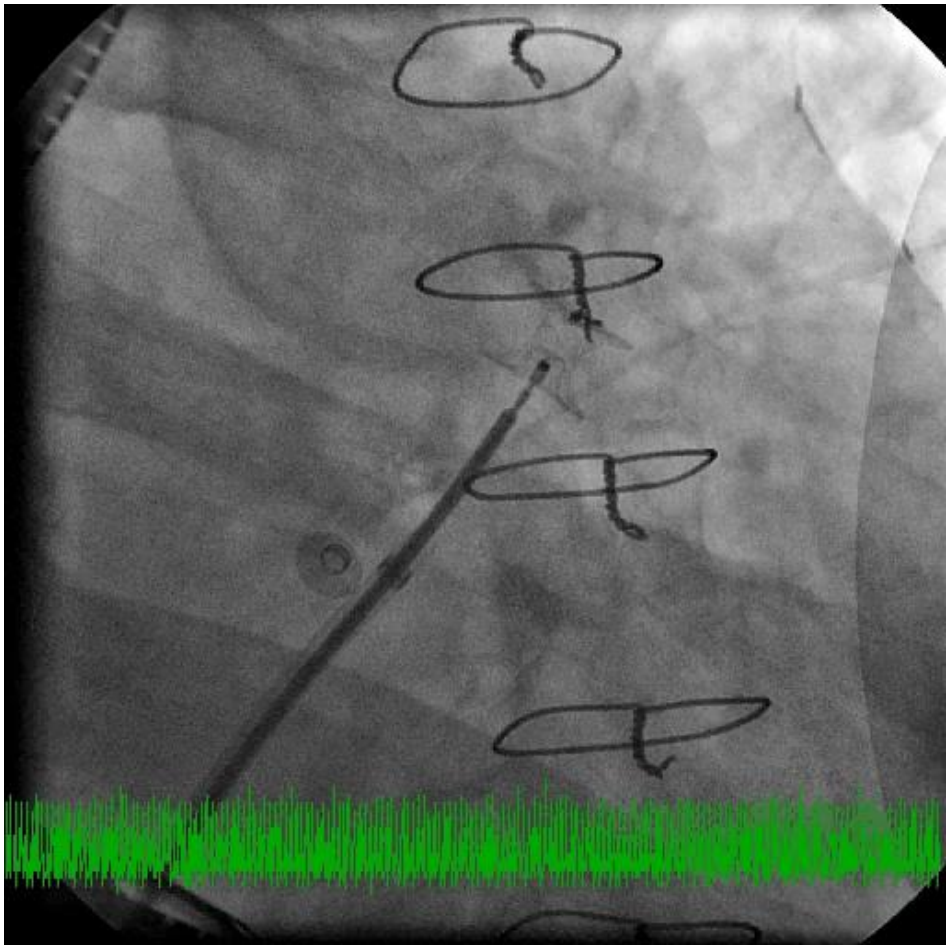

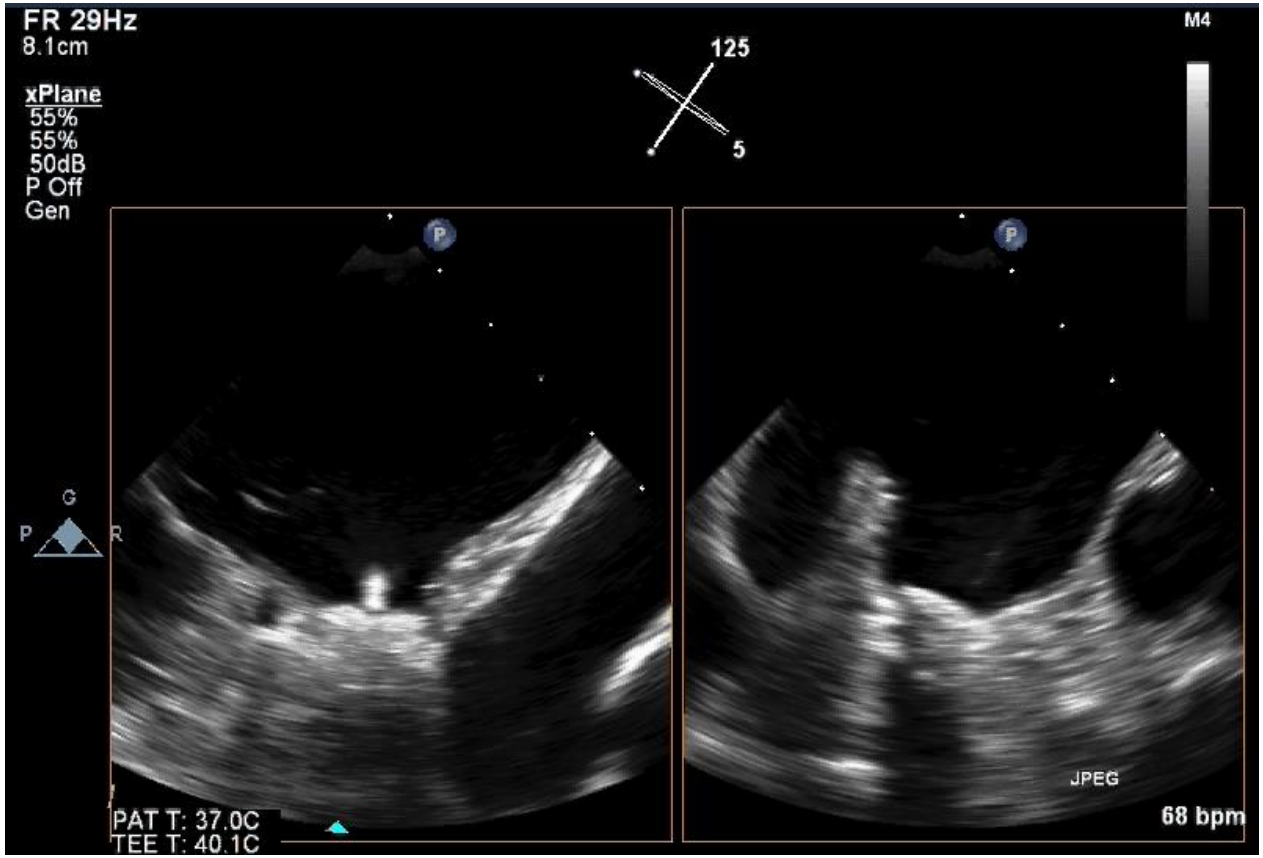

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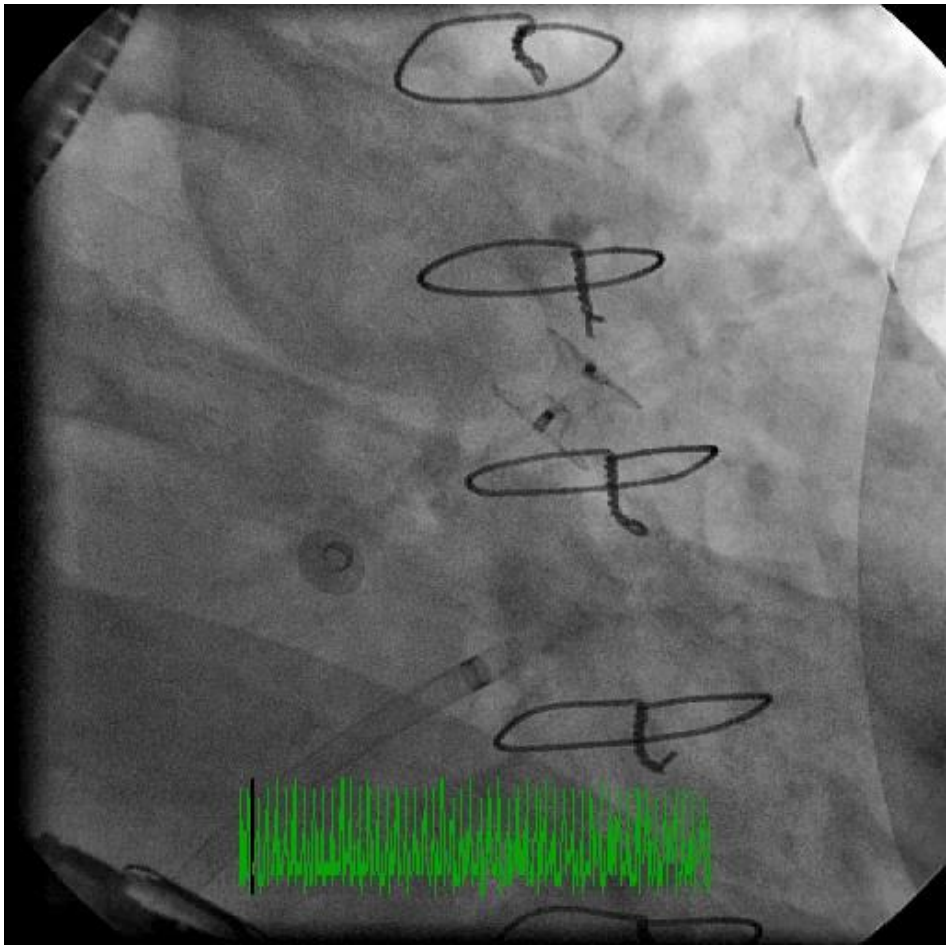

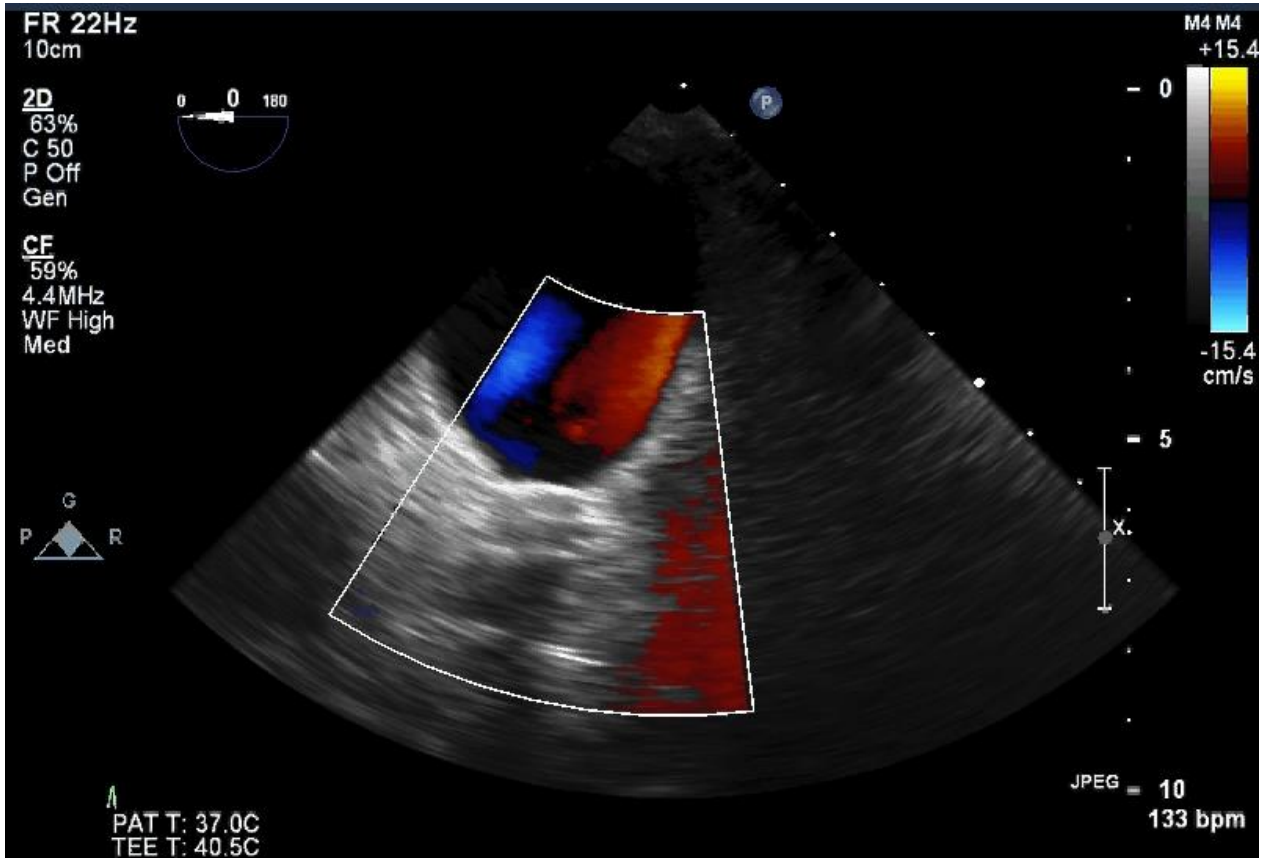

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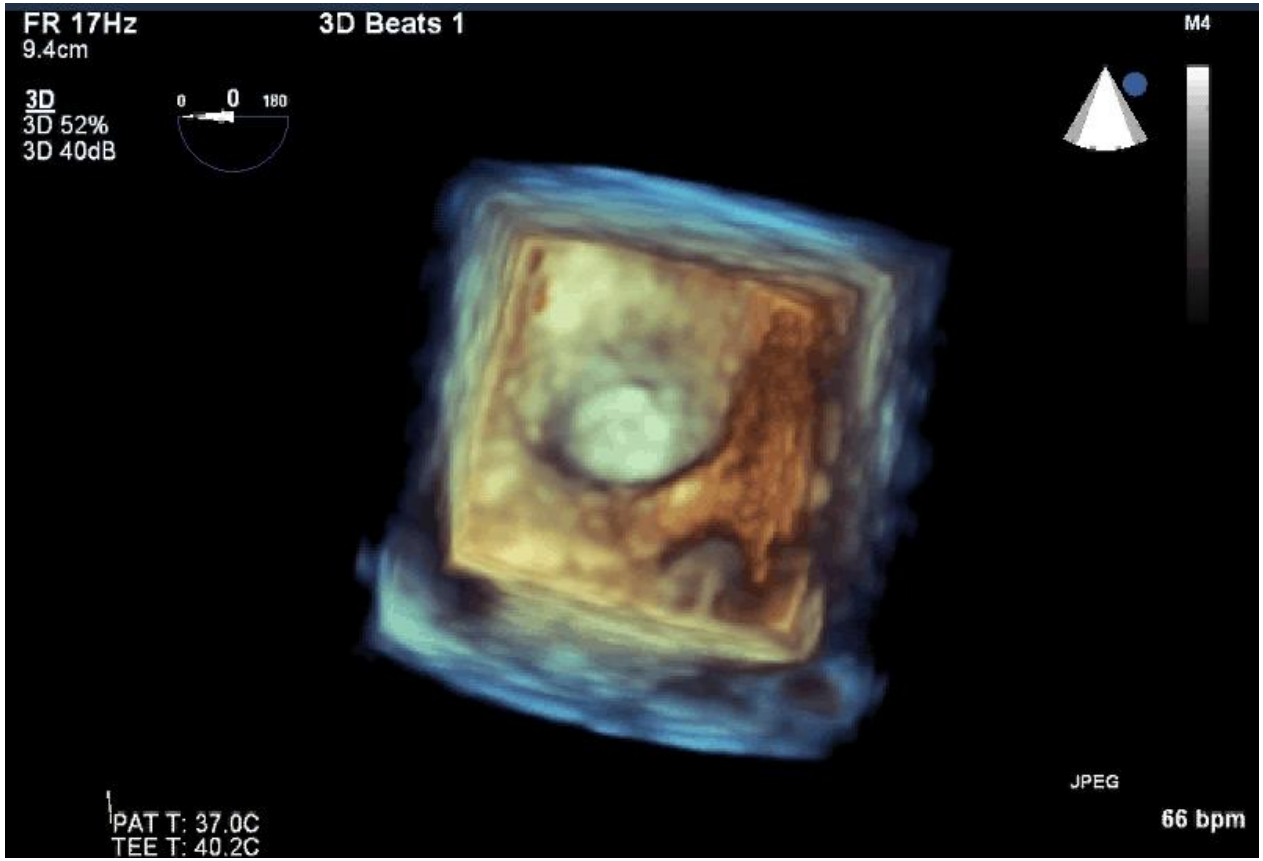

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